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**Taxonomy**

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## Summary of four years of DNA barcoding on Pseudococcidae and their parasitoids

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Since 2009 our teams have carried out DNA barcoding of mealybugs (Hemiptera: Pseudococcidae) and their parasitoids (mainly Hymenoptera: Encyrtidae). Mealybug populations and associated parasitoids have been surveyed on crops and ornamental plants from several regions of the world. Individual samples collected have been characterized by DNA sequencing at 2-5 DNA markers (using non-destructive DNA extraction methods) and then by morphological examination. Based on the characterisation of >3,000 samples, around 50 Pseudococcidae species and 30 parasitoid species have been barcoded and identified. These results make it possible to improve our knowledge of the systematics of these taxonomic groups and to develop diagnostic tools for pest management and biological control. However, many samples characterized by DNA sequencing are still in need of taxonomic identification. In addition, molecular data suggest that numerous taxonomic revisions and investigations on complexes of cryptic taxa are currently required.

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**Keywords:** Taxonomy, Phylogeny, Cytochrome oxidase, ITS, Pseudococcids, Scale insects, Platygasteridae

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